

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/023594

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C01B3/04 C01B3/56 C01B3/02 C01C1/04 C25B1/04
C01B23/00 C01C1/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C01B C01C C25B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 427 504 A (STUCKI SAMUEL) 24 January 1984 (1984-01-24) column 3, line 47 - column 4, line 20 -----	1-22
Y	US 3 616 334 A (AKER WALTER W ET AL) 26 October 1971 (1971-10-26) column 1, lines 24-51 column 2, lines 22-44 column 6, lines 9-18 -----	1-20
Y	US 4 045 315 A (RYASON PORTER R ET AL) 30 August 1977 (1977-08-30) column 2, lines 35-53 column 3, lines 33-50 -----	2-5, 21, 22
Y	US 2003/094098 A1 (WATANABE TADAHARU ET AL) 22 May 2003 (2003-05-22) the whole document -----	1-22 -----

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

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- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

18 November 2004

Date of mailing of the international search report

26/11/2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, Y	US 2003/205532 A1 (SHREWSBURY RONALD WILLIAM ET AL) 6 November 2003 (2003-11-06) the whole document -----	8-13

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/023594

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
US 4427504	A 24-01-1984	AT	368749 B	10-11-1982
		AT	87281 A	15-03-1982
		DE	3169759 D1	09-05-1985
		EP	0058784 A1	01-09-1982
US 3616334	A 26-10-1971	NONE		
US 4045315	A 30-08-1977	NONE		
US 2003094098	A1 22-05-2003	WO	03037484 A1	08-05-2003
US 2003205532	A1 06-11-2003	US	2002074289 A1	20-06-2002
		CA	2365027 A1	14-06-2002
		CN	1360961 A	31-07-2002
		EP	1214965 A2	19-06-2002
		JP	2002255542 A	11-09-2002
		SG	97227 A1	18-07-2003